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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,626	01/31/2005	Herve Rostaing	265003US2XPCT	1848
22850	7590	11/28/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			DONOVAN, LINCOLN D	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AL

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/522,626	ROSTAING ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Lincoln Donovan	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-62 is/are pending in the application.
- 4a) Of the above claim(s) 54-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1-31-05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of claims 1-4, 6, 9-11, 14, 17-19 and 22-23 in the reply filed on 09-19-05 is acknowledged. The traversal is on the ground(s) that the group of inventions form a single general inventive concept that involves at least one technical relationship among the inventions that involves at least one common or corresponding special technical feature. This is not found fully persuasive because the method claims are directed to a completely different inventive concept. The embodiments have been rejoined and will be examined on merit. It is noted that applicant submitted a second claim set on 01-31-05. Claims 55-62 are withdrawn and claims 32-51 are examined on merit.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

Claims 44-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 44, Applicant should clarify the specific means for triggering. In claim 43, from which claim 44 depends, it is stated that the means for triggering is a heater. In claim 44, applicant states that the means for triggering is a magnetic field. Applicant should clarify.

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Regarding claim 45, applicant states that the means for triggering is a conductor.

Claim 45 also depends upon claim 43. Applicant should clarify the specific triggering intended.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-35, 37-38, 40, 51 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu [US 3.634.735] in view of Willbanks [US 5,144,982].

Regarding claims 32, 34 and 53, Komatsu discloses a magnetic actuator [5] comprising:

- a mobile magnetic part [4];
- at least one fixed magnetic part [17]; and
- means [2a-2b] for triggering displacement of the mobile magnetic part relative to the at least one fixed magnetic part, wherein the mobile magnetic part is configured to assume plural stable magnetic positions [figure 5].

Komatsu disclose everything claimed except the amagnetic support structure.

Willbanks discloses a magnetic actuator [10] having a pair of amagnetic supports [14, 15, 37, 38] placed in different planes delimiting a gap for guiding a magnetic member [26] therebetween [figures 1-3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the support structure of Willbanks with the actuator of Komatsu in order to provide a planar type assembly and provide specific flux control.

Regarding claim 33, Willbanks further discloses the magnetic member being formed of a permanent magnet.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the magnetic member of Komatsu of a permanent magnet material, as further suggested by Willbanks, in order to improve sensitivity.

Regarding claims 34-35, 37 and 40, Komatsu discloses the use of a pair of magnetic components on the support [figure 5].

Regarding claim 38, Komatsu discloses the use of a centering means for the mobile element [3, figure 5].

Regarding claim 51, Willbanks further discloses at least one of the supports including a fluid inlet/outlet [31, 33, figure 3]. The specific positioning of the inlet/outlet on the valve would have been an obvious design consideration based on the desired actuation thereof.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as modified, as applied to claim 34 above, and further in view of Landa et al. [US 4,536,230].

Komatsu, as modified, disclose everything claimed except the component part being thermomagnetic.

Landa et al. disclose the use of thermomagnetic material for a permanent magnet.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use thermomagnetic material for the magnetic component part of Komatsu, as modified, as suggested by Landa et al., in order to increase magnetic strength.

Claims 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as modified, as applied to claim 38 above, and further in view of Wygnanski [US 6,848,667].

Komatsu, as modified, disclose everything claimed except the use of a beveled surface on the movable element cooperating with a corresponding portion on the support.

Wygnanski discloses a magnetic actuator having a movable magnetic element [24] with a shape cooperating with a corresponding support [figure 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to shape/bevel the movable element and support of Komatsu, as modified, as suggested by Wygnanski, in order to obtain a complete connection.

Claims 41-43 and 48-49, are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as modified, as applied to claim 32 above, and further in view of Garrigus [US 6,180,928].

Komatsu, as modified, disclose everything claimed except the use of a heater to control the operation of the actuator.

Garrigus discloses a heater element [163] to control operation of a magnetic actuator [column 17, lines 4-16].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to a heater to control operation of the actuator of Komatsu, as modified, as suggested by Garrigus, in order to provide direct switching of the magnet.

Regarding claims 48-49, Garrigus further discloses the magnets being formed of a soft magnetic material. The particular magnetization direction would have been an obvious design consideration based on the desired sensitivity and operating environment.

Claims 44-46 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as modified, as applied to claim 32 above, and further in view of Pawlak et al. [US 5,883,557].

Komatsu, as modified, disclose everything claimed except the movable element supporting a pair of contacts.

Pawlak et al. discloses a magnetic actuator [figure 1] having a contact bridge controlled [72] by motion of a movable magnet block [66].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that a contact bridge could be activated by the actuator of Komatsu, as modified, as suggested by Pawlak et al., in order to close an electrical switch.

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as modified, as applied to claim 32 above, and further in view of Bombia et al. [US 4,763,843].

Komatsu, as modified, disclose everything claimed except the triggering means being a pneumatic or hydraulic mechanism.

Bombia discloses a magnetic actuator using pneumatic/hydraulic activation [column 3, lines 11-34].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use pneumatic/hydraulic activation for the actuator of Komatsu, as modified, as suggested by Bombia, in order to enable actuation of the valve.

Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as modified, as applied to claim 32 above, and further in view of Childers et al. [US 6,813,055].

Komatsu, as modified, disclose everything claimed except the actuator supporting a mirror.

Childers et al. disclose a magnetic actuator supporting a mirror [16, figure 2].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the actuator of Komatsu, as modified, could have been used to support a mirror, as suggested by Childers et al., in order to control an optical beam.

### ***Conclusion***



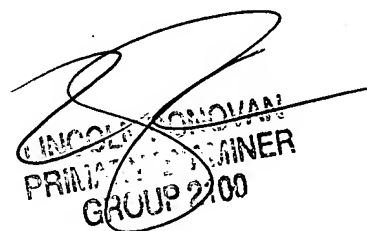
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Enad Elvin can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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